PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
Gregory A. Hunt
JENKINS, WILSON, TAYLOR & HUNT, P.A.
SUITE 1200, UNIVERSITY TOWER
3100 TOWER BOULEVARD
DURHAM, NC 27707

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

* Pending US case

	Date of mailing *(day month year)*
Applicant's or agent's file reference 1497/25PCT	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US06/41065	International filing date *(day month year)* 19 October 2006
Applicant SANTERA SYSTEMS, INC	

1 ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:**

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4 **Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within **20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver Telephone No. 571-272-7774

Form PCT/ISA/220 (January 2004) *(See notes on accompanying sheet)*

VJLU 5/1/07

DOCKET DATES: 5/18; 6/18/07 - DEM
ASSIGNED ATTY: GAH
FILE NO. 1497/25 PCT
DOCKETED BY: PEL DATE: 4/30/07
* Ddl to GW IDS in 1497/25 is 7/26/07

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
Gregory A. Hunt
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3100 TOWER BOULEVARD
DURHAM, NC 27707

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 1497/25PCT	Date of mailing *(day month year)* 26 APR 2007 **FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No. PCT/US06/41065	International filing date *(day month year)* 19 October 2006
Applicant SANTERA SYSTEMS, INC	

1 ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4 **Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver Telephone No. 571-272-7774

Form PCT/ISA/220 (January 2004) *(See notes on accompanying sheet)*

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1497/25PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US06/41065	International filing date *(day/month/year)* 19 October 2006	(Earliest) Priority Date *(day/month/year)* 18 November 2005
Applicant SANTERA SYSTEMS, INC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 1 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of:

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

   b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

   ☒ the text is approved as submitted by the applicant

   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

   ☒ the text is approved as submitted by the applicant

   ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

   a. the figure of the **drawings** to be published with the abstract is Figure No. 1

   ☒ as suggested by the applicant

   ☐ as selected by this Authority, because the applicant failed to suggest a figure

   ☐ as selected by this Authority, because this figure better characterizes the invention

   b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/41065

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04Q 7/00 (2007.01)
USPC - 370/331
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H04Q 7/00, 7/20 (2007.01); H04L 12/28, 12/56, 12/66 (2007.01)
USPC - 370/331, 401; 455/436-444

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent, IP.com, IEEEXplore, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,876,646 B1 (DORE et al) 05 April 2005 (05.04.2005) entire document	1-39
Y	US 2005/0074017 A1 (QIAN et al) 07 April 2005 (07.04.2005) entire document	1-39
A	US 2005/0085181 A1 (TAO) 21 April 2005 (21.04.2005) entire document	1-39
A	US 2005/0048973 A1 (HOU et al) 03 March 2005 (03.03.2005) entire document	1-39
A	(RADVISION) "Implementing Media Gateway Control Protocols" in: Google.com (On Line, <URL: http://www.radvision.com/NR/rdonlyres/1C34D0AA-C455-428B-A839-306926516053/0/RADVISIONMediaGatewayControlProtocol.pdf>) 27 January 2002 (27.01.2002) entire document	1-39

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 February 2007	26 APR 2007

Name and mailing address of the ISA/US	Authorized officer:
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
Gregory A. Hunt
JENKINS, WILSON, TAYLOR & HUNT, P.A.
SUITE 1200, UNIVERSITY TOWER
3100 TOWER BOULEVARD
DURHAM, NC 27707

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	26 APR 2007

Applicant's or agent's file reference	FOR FURTHER ACTION
1497/25PCT	See paragraph 2 below

International application No.	International filing date *(day month year)*	Priority date *(day month year)*
PCT/US06/41065	19 October 2006	18 November 2005

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - H04Q 7/00 (2007.01)
USPC - 370/331

Applicant SANTERA SYSTEMS, INC

1 This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2 FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3 For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	26 February 2007	Blaine Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (April 2005)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US06/41065

Box No. I Basis of this opinion

1 With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2 With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed

☐ filed together with the international application in electronic form

☐ furnished subsequently to this Authority for the purposes of search

3 ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4 Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US06/41065

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-39	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-39	NO
Industrial applicability (IA)	Claims	1-39	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-39 lack an inventive step under PCT Article 33(3) as being obvious over Dore et al. (US 6,876,646 B1) in view of Qian et al. (US 2005/0074017 A1).

Referring to Claims 1 and 39, Dore et al. discloses a method for distributed resource allocation between media gateways (MGs) in a cluster of MGs (20(1)-20(m), 25-(o)-25(1); col. 1, lines 6-8, fig. 1), and a computer program product comprising computer-executable instructions embodied in a computer readable medium (col. 9, lines 10-22, 30-34) for performing the method comprising: (a) communicating, between media gateways (MGs) in a cluster of MGs controlled by a media gateway controller (MGC 14, 16), available resources provided by each of the MGs (20(1)-20(m), 25(o)-25(1); col. 3, lines 24-33; col. 6, lines 6-10; fig. 1, 4); and (b) at the media gateways: (i) identifying resources required for a call (col. 4, lines 6-9, 23-25; col. 6, lines 46-48; 52-54; where resources are identified by collecting information); and (ii) applying rules to select resources for the call from the available resources (col. 6, lines 63-67; col. 7, lines 1-4). However, Dore et al. is silent on (iii) allocating the selected resources to process the call. Nevertheless, in disclosing methods and systems for media gateway resource allocation (par. 1; fig. 4), Qian et al. teaches dynamically allocating selected resources to process a call (par. 11; par. 14, lines 2-5, 14-15; par 25, lines 4-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to allocate the selected resources to process a call in the invention of Dore et al. as taught by Qian et al. in order to efficiently utilize the resources needed to process a call (par. 8).

Referring to Claim 2, Dore et al. (as discussed in the lack of inventive step of claim 1 above) discloses that communicating available resources includes communicating the available resources in response to a call setup message (call request) from the MGC (14; col. 6, lines 46-49; col. 9, lines 57-59; col. 10, lines 27-33; fig. 1).

Referring to Claim 3, Dore et al. (as discussed in the lack of inventive step of claims 1, 2 above) discloses that the call setup message (call request) identifies a call context (originating point, destination point, identification code, other information; col. 6, lines 29-34, 36-40, 46-48; col. 10, lines 12-14).

Referring to Claim 4, Dore et al. (as discussed in the lack of inventive step of claims 1, 2, 3 above) discloses that the call context identifies a pair of port identifiers (originating point, destination point) for connecting the call (col. 6, lines 29-34). However, Dore et al. is silent on the call context identifying conversion characteristics for the call. Nevertheless, Qian et al. teaches call context (call control information) identifying conversion characteristics for a call (par. 2, lines 2-5, 10-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include call context identifying conversion characteristics for the call in the invention of Dore et al. as taught by Qian et al. in order to identify the conversion media needed for converting the packets into the appropriate formats for the sending and receiving parties (par. 2, lines 7-10).

Referring to Claim 5, Dore et al. (as discussed in the lack of inventive step of claim 4 above) is silent on the conversion characteristics including at least one of hybrid echo cancellation (HEC), automatic level control (ALC), automatic level enhancement (ALE), automatic noise reduction (ANR), an international telecommunication union (ITU) series G coder/decoder (CODEC) conversion standard, and a voice over IP (VoIP) conversion standard. However, Qian et al. teaches conversion characteristics including an ITU series G CODEC conversion standard (par. 2, lines 5-9; par. 3, lines 1-6; par. 28, lines 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have conversion characteristics including an ITU series G coder/decoder (CODEC) conversion standard in the invention of Dore et al. as taught by Qian et al. in order to convert the media packets into the appropriate formats for the sending and receiving parties (par. 2, lines 7-9).

Referring to Claim 6, Dore et al. (as discussed in the lack of inventive step of claims 1, 2, 3 above) is silent on identifying resources required for the call including comparing the call context with the available resources. However, Qian et al. teaches that a media gateway comparing a call context (local IP address, local UDP port) with the available resources (physical and logical resources for a VoIP call; par. 11, par. 12, lines 10-14; par. 13; par. 14, lines 2-5; where the call context are compared with available voice resources, i.e. VoIP chip). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to compare the call context with the available resources in the invention of Dore et al. as taught by Qian et al. in order to identify the available resources that would provide the requested services.

Cont. in Supplemental Box

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US06/41065

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of

Box No. V
2. Citations and explanations:

Referring to Claim 7, Dore et al. (as discussed in the lack of inventive step of claim 1 above) is silent on communicating available resources includes communicating an inter-trunk port identifier associated with the call. However, Qian et al. teaches communicating available resources includes communicating an inter-trunk port identifier (UDP port#) associated with a call (par. 37, lines 1-11; par. 41, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to communicate an inter-trunk port identifier associated with the call in the invention of Dore et al. as taught by Qian et al. in order to communicate the port number that would be used during the call/session (par. 37, lines 5-6).

Referring to Claim 8, Dore et al. (as discussed in the lack of inventive step of claim 1 above) discloses that communicating available resources includes communicating available local resources to a downstream MG (25) within the cluster (MG 25(o)-25(1); col. 3, lines 24-33; col. 6, lines 6-10; fig. 1, 4; where MG 20 communicates available resources to MG 25).

Referring to Claim 9, Dore et al. (as discussed in the lack of inventive step of claim 1 above) discloses communicating available resources includes communicating available resources on an upstream MG (20) to a downstream MG (25) within the cluster (MG 25(o)-25(1); col. 3, lines 24-33; col. 6, lines 6-10; fig. 1, 4).

Referring to Claim 10, Dore et al. (as discussed in the lack of inventive step of claim 1 above) is silent on the available resources include at least one of a resource for hybrid echo cancellation (HEC), a resource for automatic level control (ALC), a resource for automatic noise reduction (ANR), a resource for automatic level enhancement (ALE), a resource for packet voice tunneling including at least one of transaction free operation (TFO) and transcoder free operation (TrFO) through the cluster of MGs, a resource for coder/encoder (CODEC) conversion, a resource to manage music-on-hold broadcasting within a cluster, a resource to manage cellular text modem/teletype (CTM/TTY) insertion, and no resource. However, Qian et al. teaches available resources including a resource for coder/encoder (CODEC) conversion (par. 2, lines 5-9; par. 3, lines 1-6; par. 28, lines 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a resource for CODEC conversion in the invention of Dore et al. as taught by Qian et al. in order to convert the media packets into the appropriate formats for the sending and receiving parties (par. 2, lines 7-9).

Referring to Claim 11, Dore et al. (as discussed in the lack of inventive step of claim 1 above) is silent on applying rules to select resources includes applying at least one of: (a) a rule to minimize a number of converting devices in a call path; (b) a rule to attempt to consolidate converting devices on one MG; (c) a rule to prefer converting devices closer to a terminating port over converting devices farther from the terminating port; (d) a rule that terminating ports decide which of the available resources are to be used; and (e) a rule to allow a terminating MG to override a resource selection made by an inter-connecting MG wherein the inter-connecting MG may have selected a locally available resource to modify a pulse code modulated (PCM) stream. However, Qian et al. teaches (d) a rule in which terminating ports decide which of the available resources are to be used (par. 10, lines 4-7; par. 11; par. 14, lines 2-5; par. 36, lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a rule that terminating ports decide which of the available resources are to be used in the invention of Dore et al. as taught by Qian et al. in order to prevent resources from being overused.

Referring to Claim 12, Dore et al. (as discussed in the lack of inventive step of claim 3 above) is silent on allocating the selected resources includes selecting, from an MG within the cluster, a resource associated with an MG upstream from the MG within the cluster. However, Qian et al. teaches that allocating resources includes selecting a resource associated with an MG upstream (par. 11; par. 14, lines 1-5; par. 36, lines 4-10; fig. 4, 412). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to select, from an MG within the cluster, a resource associated with an MG upstream from the MG within cluster in the invention of Dore et al. as taught by Qian et al. in order to select only the resources which are needed at the time.

Referring to Claim 13, Dore et al. (as discussed in the lack of inventive step of claim 1 above) is silent on allocating the selected resources includes sending a resource control message from an MG to a neighboring MG within the cluster. However, Qian et al. teaches that the allocation of resources includes sending a resource control message (call control information: commands) from an MG to a neighboring MG (par. 2, lines 5-16; par. 35, lines 5-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to send a resource control message from an MG to a neighboring MG within the cluster in the invention of Dore et al. as taught by Qian et al. in order to provide commands controlling the appropriate use of resources.

Referring to Claim 14, Dore et al. (as discussed in the lack of inventive step of claims 1, 13 above) is silent on the resource control message including an upstream termination type associated with the call. However, Qian et al. teaches a resource control message including an upstream termination type (i.e. G.711 codec type) associated with a call (par. 2, lines 10-16; par. 27, lines 1-5; par. 28, lines 2-4, 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a resource control message including an upstream termination type associated with the call in the invention of Dore et al. as taught by Qian et al. in order to identify the different codec types compatible with the system.

Referring to Claim 15, Dore et al. (as discussed in the lack of inventive step of claims 1, 13, 14 above) is silent on the termination type including at least one of an international telecommunication union (ITU) series G coder/decoder (CODEC) conversion standard and a Voice-over-IP (VoIP) conversion standard. However, Qian et al. teaches the termination type (terminal unit type) including an ITU series G CODEC conversion standard (i.e. G.711, G.726, G.729 codec types; par. 25, lines 4-8; par. 28, lines 2-4, 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a termination type including an ITU series G CODEC conversion standard in the invention of Dore et al. as taught by Qian et al. in order to identify the different codec types compatible with the system.

(Cont. in Next Supplemental Box)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US06/41065

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Previous Supplemental Box:

Referring to Claim 16, Dore et al. (as discussed in the lack of inventive step of claims 1, 13, 14, 15 above) is silent on the ITU series G CODEC conversion standard including at least one of G.711 and G.723. However, Qian et al. teaches that the ITU series G CODEC conversion standard includes the G.711 codec type (par. 28, lines 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the ITU series G CODEC conversion standard including G.711 in the invention of Dore et al. as taught by Qian et al. because G.711 CODEC calls require only 100 kbps for transmission in both directions. Therefore, less bandwidth per call is used.

Referring to Claim 17, Dore et al. (as discussed in the lack of inventive step of claims 1, 13 above) is silent on the resource control message includes at least one device identifier to identify at least one of the available resources. However, Qian et al. teaches a resource control message including device identifiers (local IP address, local UDP port) to identify available resources (physical and logical resources for a VoIP call; par. 10, lines 4-7; par. 11; par. 13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the include at least one device identifier to identify at least one of the available resources in the invention of Dore et al. as taught by Qian et al. in order to uniquely identify the resource that is needed during the current session (par. 37, lines 1-9).

Referring to Claim 18, Dore et al. (as discussed in the lack of inventive step of claim 1 above) also discloses that communicating available resources includes sending a resource available message from an MG (egress media gateway, 25) to a downstream MG (ingress media gateway, 20) within the cluster (MGs 20(1)-20(m); col. 4, lines 6-15; col. 5, lines 4-6, 11-16, 45-47; col. 6, lines 46-48; fig. 1, 4).

Referring to Claim 19, Dore et al. (as discussed in the lack of inventive step of claim 1 above) also discloses allocating the selected resources includes sending a resource select message (request message) from an MG (ingress media gateway, 20) to an upstream MG (egress media gateway, 25) within the cluster (MGs 25(0)-25(1); col. 4, lines 6-15; col. 5, lines 4-6, 11-16, 45-47; col. 6, lines 63-67; col. 7, lines 1-6, 10-13; fig. 1, 4).

Referring to Claim 20, Dore et al. discloses a system for distributed resource allocation between media gateways (MGs) in a cluster of MGs (col. 1, lines 6-8, fig. 1), the system comprising: (a) a media gateway controller (MGC 14, 16); and (b) a plurality of media gateways (MGs) controlled by the MGC (14, 16) and forming a cluster of MGs (20(1)-20(m), 25-(o)-25(1); fig. 1), wherein the MGs are adapted to: (i) communicate, between the MGs in the cluster, available resources provided by each of the MGs (col. 3, lines 24-33; col. 6, lines 6-10; fig. 4); (ii) identify resources required for a call (col. 4, lines 6-9, 23-25; col. 6, lines 46-48; 52-54); and (iii) apply rules to select resources for the call from the available resources (col. 6, lines 63-67; col. 7, lines 1-4). However, Dore et al. is silent on (iv) allocating the selected resources to process the call. Nevertheless, Qian et al. teaches allocating selected resources to process a call (par. 14, lines 2-5, 14-15; par 25, lines 4-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to allocate the selected resources to process a call in the invention of Dore et al. as taught by Qian et al. in order to efficiently utilize the resources needed to process a call (par. 8).

Referring to Claim 21, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 2 above.

Referring to Claim 22, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 21 above) discloses the further recited features as discussed in the lack of inventive step of claim 3 above.

Referring to Claim 23, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 21, 22 above) discloses the further recited features as discussed in the lack of inventive step of claim 4 above.

Referring to Claim 24, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 21, 22, 23 above) discloses the further recited features as discussed in the lack of inventive step of claim 5 above.

Referring to Claim 25, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 21, 22 above) discloses the further recited features as discussed in the lack of inventive step of claim 6 above.

Referring to Claim 26, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 7 above.

Referring to Claim 27, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 8 above.

Referring to Claim 28, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 9 above.

Referring to Claim 29, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features discussed in the lack of inventive step of claim 10 above.

Referring to Claim 30, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 11 above.

(Cont. in Next Supplemental Box)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US06/41065

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Previous Supplemental Box:

Referring to Claim 31, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 12 above.

Referring to Claim 32, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 13 above.

Referring to Claim 33, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 32 above) discloses the further recited features as discussed in the lack of inventive step of claim 14 above.

Referring to Claim 34, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 32, 33 above) discloses the further recited features as discussed in the lack of inventive step of claim 15 above.

Referring to Claim 35, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 32, 33, 34 above) discloses the further recited features as discussed in the lack of inventive step of claim 16 above.

Referring to Claim 36, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claims 20, 32 above) discloses the further recited features as discussed in the lack of inventive step of claim 17 above.

Referring to Claim 37, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 18 above.

Referring to Claim 38, Dore et al. in view of Qian et al. (as discussed in the lack of inventive step of claim 20 above) discloses the further recited features as discussed in the lack of inventive step of claim 19 above.

Claims 1-39 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.